

S U M M E R 1 9 9 5

# Imperial Oil Review

AR36



HERSCHEL ISLAND  
HAUNTING BEAUTY IN ARCTIC WATERS



# History Mystery

*With tales of ghosts and arson in mind, a writer sets off  
in search of Canada's oldest occupied residence*

BY TED FERGUSON



A SOFT RAIN WAS FALLING ON THE QUEBEC COUNTRY-  
tryside as I drove off the bridge and headed  
towards the village of Ste-Famille on Île d'Orléans.  
Even on a late autumn afternoon, with the leaves  
off the trees and the fields fading to brown, the  
island was a charming place. Roadside vendors  
sold apples and maple syrup, a tractor hauled a  
load of firewood across a farmyard, a freighter  
slipped up the St. Lawrence towards Quebec City,  
16 kilometres to the west.

But it wasn't the scenery that had brought me  
to the island; it was detective work of a sort. I was  
on the trail of Canada's oldest occupied residence.

I had begun my quest a few weeks earlier with a  
phone call to Linda Barker, an information special-  
ist at a University of Toronto library. A day or  
two later, I was sitting in her office. She pushed a  
pile of books towards me with a look that suggest-

ed she didn't envy me my task. "Tread carefully,"  
she warned. "I suspect that if you name one house  
as the oldest, you'll get a letter from someone say-  
ing his or her house is older. Construction dates  
aren't always recorded – often they aren't even  
known. Even if you surveyed every house in the  
country personally, you couldn't be absolutely sure  
you'd found the oldest."

Feeling downcast, I started to go through the  
books Barker had given me – Canadian architec-  
ture texts dating back to the 1920s. The most  
compelling was *Historic Houses of Canada*, a 1952  
work by Katherine Hale, a Toronto journalist. She  
wrote a great deal about homes in Annapolis  
Royal, which is in an area of Nova Scotia discov-  
ered by Samuel de Champlain in 1604. Descrip-  
tions of spiral staircases, dormer windows and the  
like form the book's backbone, but Hale had an

PHOTOGRAPHY: JAMES COOK



appreciative ear for local legends. In one Annapolis Royal house, a female slave is said to have murdered her master in 1804 by poisoning his coffee. A woman who later owned the coffeepot used in the crime told Hale that Colonel DeLancey had brought about his own early demise by once promising the slave she would be freed upon his death.

There were other stories from Annapolis Royal, too. During the 1850s, Sir William Fenwick Williams, a hero of the Crimean War, supposedly saw the spectre of a wounded soldier in his home. Excavating the cellar two decades later, a work gang found the skeleton of John Kennedy, a soldier who had mysteriously vanished years before Williams saw the apparition.

The book made for fascinating reading, but it wasn't really much help. Nowhere did Hale mention the construction dates of any of the houses. Was Canada's oldest occupied residence in Annapolis Royal? With a sense of anticipation I telephoned several historic-site experts in Halifax. Eventually, I was referred to Allan Doyle, a senior travel officer with Tourism Nova Scotia. No, Doyle told me, the Annapolis Royal houses weren't the oldest in the country – not even in the province. That honour, he said, probably belonged to a stone house in Poplar Grove, near Windsor, N.S., which, he believed, was built around 1700. "No one is sure of the date," he said. Evidence suggests the building of the house was begun in about 1698 by Father Louis-Pierre Thury, who was responsible for all the missions in Acadia. Thury decided to establish a new mission in the area and to make his home there. Reports suggest the location he planned for the mission was that of the old stone house, and indeed, it is quite possible that the house was to have been part of the mission. Thury died in 1699, before the mission was completed; it is thought that the stone house might well have been finished under orders from Jacques-François Brouillon, who became governor of Acadia in 1701.

The photographer Sherman Hines bought the house in 1980, when it was little more than a neglected shell. Over the next five months, Hines restored the charming old building and continues to live and work there today.

"The de Gannes-Cosby house in Annapolis



Royal is the oldest privately owned home of wooden construction in the province," Doyle added as an afterthought. Constructed in 1708, the two-storey clapboard building was occupied in its earliest years by Louis de Gannes de Falaise, once a mayor of Port Royal.

"When the British army swept through Nova Scotia in the early 1700s, it had a scorched-earth policy similar to Sherman's march to the sea,"

Doyle told me. "Houses built in the 1600s were deliberately burnt to ashes. Our architectural heritage went up in flames."

My work had only just begun. I had to dig deeper. I may have located the oldest occupied residence in Nova Scotia, but that, of course, didn't mean there wasn't an older home elsewhere in Canada. Remembering a television documentary I had once seen about lovely old buildings on Prince Edward Island, I decided to turn my investigation to that province. There were, I learnt, numerous mansions in Summerside built during the

1800s – the Baker-Strong house, for example, was erected in 1866, the 23-room Tuplin-Lefurgey house in 1868 and the twin-towered Mills dwelling in 1899 – but none, it seemed, was nearly as old as Sherman Hines's stone house in Nova Scotia.

I turned next to Newfoundland and the city of St. John's, whose roots go back to the 1500s. Unfortunately, St. John's was devastated by fire in




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LOCATED ON  
ÎLE D'ORLÉANS, QUE.,  
PAUL GOURDEAU'S  
WHITE STONE HOUSE  
(OPPOSITE) DATES  
FROM 1671;  
EVIDENCE SUGGESTS THAT  
CONSTRUCTION OF A  
STONE HOUSE (ABOVE)  
NEAR WINDSOR, N.S.,  
WAS BEGUN IN  
1698 BY FATHER  
LOUIS-PIERRE THURY.

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the 1800s; most of the early houses had been made of wood and burnt like dry kindling. One older home that escaped destruction was the two-storey wooden cottage built on the city's outskirts by the dairy-farming Mallard brothers in the mid-1700s. I decided to find out more about the place. After several phone calls, I found myself talking to Peg Magnone.

"Yes, I do live here," the retired teacher said over the phone from the cottage. "I love the place, but believe me, it took plenty of work to get it into lovable condition." Magnone bought the house eight years ago for \$19,000 and then spent more than \$50,000 restoring it. The cottage is located only a few minutes' walk from downtown St. John's, yet the previous owner, an elderly member of the Mallard family, had lived there without electricity and running water until her death in the 1980s. "Neighbours brought her two buckets of water every day," Magnone said, "and she used kerosene lamps."

Electricity and water were installed, and Magnone herself scraped off 27 layers of wallpaper, sailcloth and newspaper and, with a relative, cleaned the smoke-tarnished ceiling beams near two stone fireplaces. "It was well worth all the time and money," she said. "Living here gives me a wonderful sense of history. Despite the changes I made, the cottage is essentially the same as it was in the 1700s."

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HOWARD, WHOSE  
ÎLE D'ORLÉANS  
HOME (OPPOSITE) WAS  
BUILT IN 1720.

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Hanging up the phone, I checked my notes. Magnone's cottage was not as old as Sherman Hines's cottage in Nova Scotia, and Doyle had said that nothing in New Brunswick predated it. As far as I could determine, Hines's cottage was the oldest occupied residence in the Maritimes.

AS A TRANSPLANTED WESTERNER, I KNEW the Prairies didn't have a major influx of white settlers until the 1800s. One of the first of those settlers, Kootenai Brown, was a buffalo hunter and trader who moved into a cabin near Alberta's Waterton Lakes in the 1870s. Transported some time ago to the site of a historical museum in Pincher Creek, Alta., Brown's vacant home is among the oldest Prairie dwellings still standing.

I also knew that the passion for modernity that swept the Prairies during the 1960s and '70s had led to the demolition of hundreds of older buildings. One notable survivor, the Marr house in Saskatoon, is a two-storey, wood-frame dwelling built in 1884 by a stonemason called Alex Marr. The house was requisitioned as a field hospital for wounded soldiers in 1885 during the Northwest Rebellion; the City of Saskatoon is currently restoring it as a heritage site. "I can't think of any other home in the province as old as the Marr house," said a

Tourism Saskatchewan travel counsellor, Krystal Piché. "I know the provincial and municipal governments try to save older buildings, but many are still being torn down. It's really sad. Every time an old house is demolished, part of our history is erased."

Fortunately, that sort of thing won't be happening in Vancouver's Gastown. I called a friend whose apartment is situated in the historic waterfront district, which is protected as a designated heritage site. An amateur historian, he reminded me that Captain George Vancouver hadn't "discovered" the western

region of Canada until the late 1700s.

In 1867, the Fraser River pilot Gassy Jack Deighton, a loquacious man of Falstaffian girth, offered free whisky to anyone willing to help him build a hotel in what became known as Gastown. Deighton House was erected and opened within 24 hours. A hundred years later, the remaining buildings in the district were renovated and turned into offices, shops and restaurants. "There's



nothing out here older than the 1800s," my friend said. "It seems to me you should be looking in your own backyard, Ontario or Quebec."

My search had been reduced to two provinces – was I finally getting close to solving the mystery?

I made my way to the Metropolitan Toronto Reference Library, where a librarian brought me some books – Ruth Moffat's *Stone Houses*, W.P. Percival's *The Lure of Quebec* and P. Roy Wilson's *The Beautiful Old Houses of Quebec* – and a few documents and pamphlets dealing with pre-Confederation architecture. I learned a lot.

For example, 19th-century stonemasons constructing elegant farmhouses for United Empire Loyalists, who began to arrive in Upper Canada during the 1780s, often placed a coin somewhere in the building to record its year of completion. Some homes featured second-floor exterior doors that had no steps leading to them; their purpose, some people say, was to convince tax collectors that the building was not yet finished. The homes of Mennonite pioneers, who started coming to Upper Canada in the 1790s, were frequently patchwork affairs constructed from fieldstones of all colours and dimensions – members of the religious order believed in using everything they found. In her 1984 book, Moffat says the Loyalist settlers, on the other hand, carefully matched the stones. "The Loyalist was essentially a conservative who preferred the known to the unknown, symmetry to self-expression," she writes. "The Loyalists admired order and tradition.... This was reflected in their homes, which were tasteful, balanced and substantial."

Interesting though they were, none of the books told me which was Ontario's oldest house. So the next day I made my way to the Archives of Ontario in Toronto. There I found a document stating that a Prince Edward County stone house that remains standing today was erected by a mill owner named Nicholas Lazier in the early 1800s. Another stone building in the area, the Clapp-Palmer house, was built between 1840 and 1850. A local architect and historian, Court Noxon, said in a telephone conversation that he felt a stone house built by a fur trader named Reynolds in the Prince Edward County community of Wellington was probably erected in the very early 1800s. "It's hard to pin a definite date on some buildings," Noxon said. "We go by old diaries and letters and the county land records. Some people claim the Reynolds place was built in the 1770s."

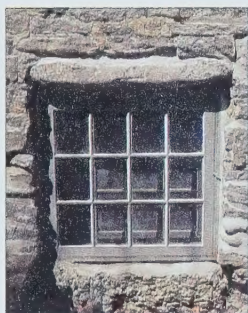


My thoughts turned briefly to the provincial capital – I wanted to ensure that the building I was seeking wasn't in my own city. I contacted Joan Crosbie, a preservation officer with the Toronto Historical Board, who told me that Toronto's longest-standing building is the 1793 Scadding log cabin. The cabin is not occupied; now located on the grounds of the Canadian National Exhibition, it is open to the public at certain times of the year. Most of the city's old stone and brick homes, I learnt, weren't built until the second half of the 19th century.



WHAT ABOUT KINGSTON? THE CITY'S STREETS seem to be lined with historic buildings. "I don't know the precise number, but I'm sure there are dozens of pre-Confederation houses in this area," Bill Fitsell, president of the Kingston Historical Society, told me. "We've been lucky in having many people living here who are devoted to keeping an architectural record of our past. We have lost some houses to high-rises but far fewer than other communities." Fitsell said that what had been Kingston's oldest wood-frame house, a legacy of the 1790s, was burnt to the ground by vandals three years ago. He talked of two old residences that are occupied today, Elizabeth Cottage and the Rosemount house. In the style of a Gothic manor, Elizabeth Cottage was built between 1841 and 1843, he said, and has served as a residence for elderly women since 1954. A Tuscan-style structure built for the merchant Edward Hardy in 1849, the Rosemount house is now an apartment building. So it appeared the oldest occupied Ontario dwelling was the Reynolds





house in the Prince Edward County community of Wellington.

*The Beautiful Old Houses of Quebec* tells us that a house in Sillery, a town adjoining Quebec City, is probably Canada's oldest. It was started in 1637, but in June 1657, fire ravaged the building. The original stone walls, however, survived the fire, and reconstruction started immediately. Today, it serves as a museum. A St-Gabriel farmhouse on Montreal Island went up around 1661, but no one lives in it today. Still, I felt I was on the right track.

I made a number of telephone calls to tourist, historical and cultural bodies in Montreal and Quebec City. The consensus was that the building I was seeking was either the Ursuline convent in Quebec City or a farmhouse on Île d'Orléans.

Excited by the knowledge that I might soon be sighting my quarry, I rented a car and drove east.

NEARLY A DOZEN STONE HOUSES appeared along the winding road leading from the bridge to the village of Ste-Famille on Île d'Orléans. It was impossible to tell if they had been built in the 1600s or a couple of hundred years later. In the village, a number of people were coming out of the 18th-century church. I parked the car nearby and approached a middle-aged woman. She said she had no idea which residence was the oldest on the island but she had heard of a home built around 1700, which

was inherited by two brothers years ago on the condition that they never sell it. "The brothers can't stand each other, I gather, but they live under the same roof and farm the land together," she said. "I've heard they haven't spoken to each other for 25 years, except for the time one brother accidentally ran over the other's foot with the tractor. And then all he supposedly said was 'Sorry.'" Another woman emerged from the church and, on hearing our conversation, pointed to a large white house and said someone there might be able to help me. The ground floor contained the Boucherie Ubald Prémont. Inside, a man said, "You're asking the wrong person. Call Madame Boucher. She's been here all her life and knows everything about Orléans."

Louise Boucher turned out to be a coordinator with the Île d'Orléans Chamber of Commerce. "There are many

houses on the island that have been owned by the same family for nine or 10 generations," she said over the phone. "But I'm fairly certain all of the houses put up in the mid-1600s are unoccupied today. I don't have any solid dates, but I believe the oldest houses still occupied were all erected around 1680."

Boucher gave me the names of four islanders residing in homes once owned by pioneer settlers.

The first person I called didn't want to talk about her house, the second had his phone disconnected, the third hung up without an explanation. I was luckier with the fourth. Suzanne Howard, an artist and restaurant owner, purchased the abandoned Morency house with her former husband in 1961. Today, it looks very much as it would have in 1720, when it was built. As you walk in you see the huge hearth with the original baking oven beside the fireplace. The steep stairs, more like a ladder than the staircases of today, are also original, as are the built-in kitchen cupboards, crossbeams and

dormer windows. "Old houses have souls," Howard said. "You feel the presence of those who stayed in them before you."

There is another old building on Howard's property. Constructed partly of stone in 1680, it now houses Howard's restaurant, L'Atre.

"But there's an older house than mine on the island," said Howard candidly. "And I believe it's occupied – at least for part of the year." The house

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STREET DATES BACK TO  
THE MID-1600S.

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belongs to Paul Gourdeau, a semiretired gentleman who lives in the house during holidays and the summer. The house was only a short distance from Howard's; with its thick white stone walls and dark shutters, it looked as if it belonged in a picture book. Later, I got through to the house by phone and talked with a housekeeper, who assured me that there wasn't an older home in Canada.

"The house was built in 1671 by a Mr. Mourier," said Gourdeau when I finally tracked him down a few weeks later, "and was enlarged in the 1680s."

In fact, Mourier and another family member built two houses at the time – Gourdeau's and a neighbouring house that is also occupied. The latter sustained considerable damage at some point in the late 1600s as a result of a fire that killed at least one child. "I bought my house in 1972," said Gourdeau, "and restored it with the help of some historic architecture experts."

After visiting Île d'Orléans, I drove the 16 kilometres to Quebec City's Upper Town, a district that has so many historic buildings that it has been declared a UNESCO World Heritage site. My search ended at the entrance of a flawlessly preserved grey stone convent on the short, narrow Donnacona Street. About 60 Ursuline nuns reside in the building; most are retired teachers. Several of the convent's 15 wings are devoted to a school, and in late afternoon the street was filled with boisterous children.

A grey-haired nun came to the door. "Are you the man who wants to see the skull?" she asked.

"The skull?"

"General Montcalm's. It's in the museum around the corner."

When I explained the purpose of my visit, she shook her head. The order did not allow visitors on its premises. There were some rooms, she said, that a man hadn't set foot in since the building was constructed in the 1600s. "If you want to know about the convent, go to the museum. It's all there. Everything."

Montcalm's yellowy skull lay in a glass display case at the Ursuline museum, a small stone building dating from 1644. After the French general died fighting British troops on the Plains of Abraham in 1759, his body was buried in the chapel at the convent. About a century later, workmen repairing the chapel discovered his remains, and the nuns of the day decided they would keep the skull. "Back then, people sometimes collected the skeletons of exceptional individuals," said Denise

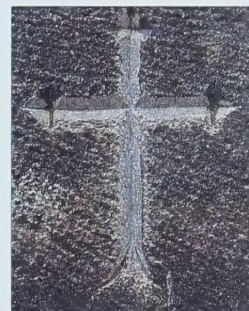


Roy, a museum guide. "They kept arm bones and fingers, too, and placed them in nice pieces of material specifically woven to contain them."

While visitors cannot enter the convent, they are able to view its interior through a video made about the Ursuline order. The narrator explains how Marie de l'Incarnation and Madame de la Peltrie emigrated from France in 1639 to found an Ursuline teaching order in New France. The order's original convent, built in 1642, was destroyed by fire in 1650 and completely rebuilt. In 1686 fire swept through that structure; the building was reconstructed using the original walls. It is this building that the Ursulines occupy today.

The convent is arranged in a quadrangle; an enclosed courtyard at the centre ensures the nuns privacy. The camera takes us down long, vaulted corridors with gleaming wooden floors to sparsely furnished common areas and individual cells. With its large chimneys, dormer windows and high ceiling, the refectory is, the narrator tells us, the oldest surviving structure of its size and kind in Canada.

Leaving the museum, I walked to the front of the convent. The schoolgirls were gone. A group of American tourists with video cameras were gazing at the building. I almost told them they were admiring the oldest inhabited residence in Canada. What stopped me was the memory of Linda Barker's advice. Maybe I had missed a building somewhere in Quebec that predated the convent by a year or two. Best not to make such a definite statement to the tourists or anyone else. Instead, I used the word that journalists often use to spare themselves embarrassment. That word is probably. □





# What Price Gasoline?

*Although motorists tend to be frustrated by the rise and fall of gasoline prices, there are good reasons for the fluctuations*

BY RUSSELL FELTON

ONE OF THE MANY PLEASURES I DERIVE FROM GOLF is that I get to drive, in season, to green and hospitable places around and about Toronto in the company of my regular golfing partner, a man with whom I find I have more in common than merely a passion for the royal and ancient game.

A senior level, civil service accountant nearing retirement age, my friend has travelled widely, read extensively and is generally a thoroughly companionable and easy-going fellow – except in one respect. Knowing that I work in the oil industry, he rags me at every opportunity about gasoline prices. And since our golfing forays take us from the inner city through its suburbs and outlying satellite townships to its rural environs, he seldom lacks opportunities.

“Ah,” he might say as we pass the Esso self-serve station a few blocks from his home and mine,

“gas is 54.9 cents a litre today, I see.

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It was 50.9 cents last Tuesday, but of course, this is the weekend. Prices are always jacked up for the weekend, right?” Or, as we cross an intersection where there are two or perhaps three stations, he’ll say, “The same price at all stations, eh? What a coincidence. Last week they were all six cents lower, and tomorrow they’ll all be somewhere in between. Up together, down together – what do you guys do, hold a conference call every day to decide how much you can rip drivers off for?”

If the truth be told, my friend understands the dynamics of gasoline pricing better than he pretends to, if only by virtue of my having explained them to him many times in the years we’ve known each other. He just likes to tease me. I’m sure, though, that his mock cynicism and rhetorical questions reflect the genuinely held views of many motorists across the country. In fact, customer surveys carried out by Imperial Oil show that three-quarters of motorists believe that “oil companies work together to fix the price of gasoline at a certain level.”

Moreover, that belief is not only widely held but deeply ingrained, according to Brendan Hawley, vice-president of public affairs for the Canadian Petroleum Products Institute, whose membership includes the majority of oil refiners and marketers in Canada. “While every government inquiry into the subject of pricing has concluded that the industry is very competitive, the perception is that it is not,” says Hawley, “so we have to deal with that perception.”

It is a perception that seems to be based, at least partly, on a belief that gasoline prices have continually risen over the years. An examination of actual prices over the last several decades suggests otherwise. Adjusted for inflation, the average retail price of gasoline in Toronto, including all taxes, remained between 45 and 50 cents a litre from the early 1960s until the late 1970s, when the international price of crude oil rose sharply. As crude oil prices stabilized – albeit at a higher level than previously – the retail price settled in the mid 1980s into a 55 to 60 cents a litre range before falling again in the 1990s to between 50 and 55 cents a litre. Average prices in other parts of the country have also remained remarkably stable in real terms. And this is despite substantial product improvements such as the introduction of unleaded gasoline, high-octane premium grades and engine-cleaning “detergent” additives, not to mention the numerous tax increases that have occurred.

The share of the average retail price of gasoline taken in taxes by the federal and provincial governments has risen, however, from about one-third in 1956 to more than half in 1995. The price before tax – that is, the price charged to cover the costs of crude oil, manufacturing, distribution and marketing and to earn profits for refiners, marketers and service-station operators – has therefore actually declined. This would seem to indicate that the industry has become more efficient at making and selling gasoline over the years and that these efficiencies have been passed along to consumers in the form of lower real prices.

Clearly, however, it is not the “real” or average price of gasoline that bothers motorists. Their



most common complaints, says Hawley, derive from the fact that prices fluctuate widely and that prices at ostensibly competing service stations go up and down in unison. They also complain that prices vary from one city, town or rural area to another or sometimes even within what appears to be the same market area – from Ottawa to nearby Smiths Falls, Ont., for example – without any apparent reason.

“People see the prices change, sometimes daily, and yet there’s no difference in the product or service being offered,” says Hawley. “Without a logical explanation, people naturally start to assume the worst. Petroleum companies rarely get the benefit of the doubt.”

One reason for consumer scepticism is to be found in the fact that, for the most part, we live in a world where the prices of most commodities remain relatively stable from day to day. Most oil industry executives understand motorists’ confusion and frustration when gasoline prices bounce around. Says Brian Fischer, senior vice-president of Imperial’s products and chemicals division: “I’d be frustrated, too, if I found that the price I’d just paid for milk or bread at a supermarket had been 10 or 12 percent lower a few hours earlier. And I’d be even more annoyed if I found that the price had gone down again the next day or that the price for the same product at the same supermarket chain was lower on the other side of town. Frankly, if I didn’t understand why these things happened, I’d feel cheated.”

Another cause of consumer frustration is probably to be found in the unique nature of the product itself. Not only is gasoline something that one rarely sees, it is also something that you have to buy when you need it; it is not a postponable purchase. When your gas gauge is hovering around the empty mark and you have to take your children to a hockey game, visit the in-laws or get to work in the morning, you can’t wait around for the price to come down. That’s generally when you recall that had you filled up two days earlier you could have saved yourself some money – forgetting, of course, those occasions when filling up two days before would have cost you more money.

Your average motorist might be a little more tolerant of fluctuating gasoline prices if he or she were to realize that, from the gasoline seller’s viewpoint, pump prices generally range between, at the low end, an unprofitable level and, at the top end, one with the slimmest of profit margins. But motorists, of course, find this hard to accept. Research indicates that 75 percent of customers believe that petroleum companies and service-station operators still make a profit when prices are at the low end of the scale. And when prices

rise, consumers conclude that the difference is clear and excess profit, which comes out of the pocket of the long-suffering motorist.

However, says Imperial’s Fischer, “the reality is that at the low end of the price range, gasoline is sold at zero profit to the marketer or, occasionally, at a loss. That’s hard for people to accept because they don’t believe any company or industry would routinely sell a product for little or even negative profit, but we do. We don’t like it – it doesn’t make sense, really – but it’s what severe

competition results in. And, of course, the motorist who fills up when the price is at the low end of the range is actually getting quite a bargain.

“Even at the high end of the range of price movement, our profit margin is extremely thin,” explains Fischer. “The average annual return on investment of the retail marketing divisions of the major petroleum companies in Canada over the last decade has been around four percent. That’s well below the average for Canadian manufacturing industries as a whole and an unacceptably low level of return for a business that requires enormous investments in distribution systems and service-station networks. It certainly doesn’t represent good value for our shareholders.”

WHEN I EXPLAIN ALL THIS TO MY GOLFING FRIEND, he purports to be unmoved. “Selling gasoline,” he says, “isn’t the only business in which it’s tough to make a dollar these days. And I grant you there’s lots of competition, but that doesn’t explain why prices fluctuate so frequently, rapidly and widely in some locations.” He has a point; in some markets, prices can vary by as much as six cents a litre over a matter of hours.

To understand why, it helps to know what constitutes a market in the gasoline retailing business. When gasoline sellers talk of “markets,” they are speaking of any location or area where a number of stations compete directly for the same customers. It can be as small as a single busy intersection in an urban area or even two competing stations within sight of each other. On the other hand, a relatively large area, such as a township or a rural county, can constitute a single market.

It is the characteristics of each of these various markets that have a large effect on prices. Rick Dobson, manager of Imperial’s automotive division, explains that “in markets where there are relatively few competitors, each having a satisfactory and stable market share, prices naturally tend to remain at a level that allows everyone to make

#### PUMP PRICES

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BETWEEN, AT THE

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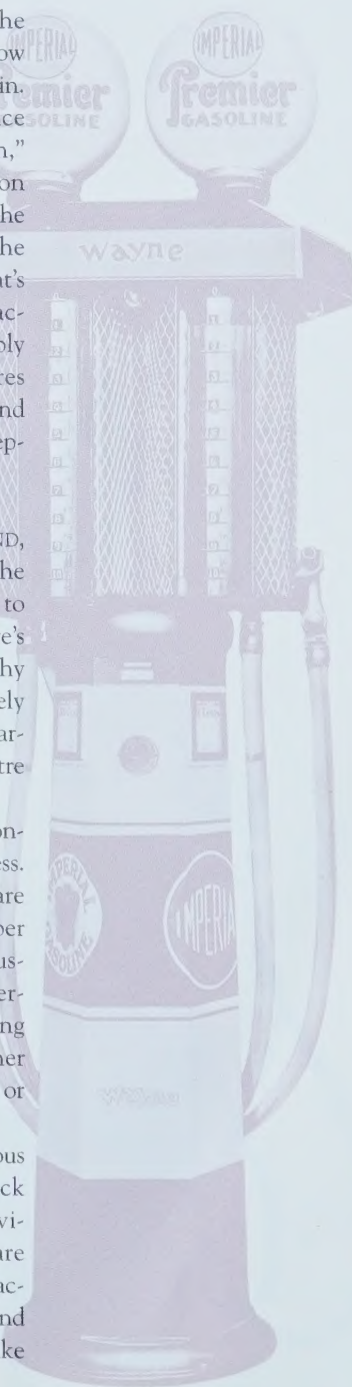
LEVEL AND,

AT THE TOP END,

ONE WITH THE

SLIMMEST OF

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a reasonable profit, and they rarely fluctuate very much. You will sometimes find different general price levels at stations in the same broad geographic region, with prices fluctuating in one vicinity of it but not in another. The reason for this is that they are not in the same gasoline retailing market. It's not that consumers in the higher-priced area are paying unfairly high prices but, rather, that people in the area where prices are more volatile and generally lower are actually benefiting from the competitive forces at work in that particular market."

It's also important to understand, Dobson says, that gasoline is a very price-sensitive product. "Motorists will bypass one station for another to save one cent a litre, or about 25 to 30 cents a fill-up. In fact, industry research tells us that a one-cent-per-litre price difference between competitors in the same market will result in a 10 to 20 percent difference in sales volume."

Of course, what makes it easy for motorists to choose among competing stations is the fact that they are already in their cars. Relatively few people would take the time and trouble to drive from one supermarket to another to save 30 cents on, say, a \$5 bag of potatoes – let alone on a \$25 purchase. But gasoline prices are posted outside gas stations in lettering that can be seen from hundreds of metres away. Driving a short distance to save 30 cents on a fill-up of gasoline costs almost

nothing in time and trouble, so many people do it.

There's another less obvious but important reason why gasoline retailers are quick to lower their prices in response to competition from nearby stations. Gasoline retailing is what economists call a "high fixed-cost, low incremental-cost business." Such expenses as rent, property taxes, heating, lighting and labour are fixed. The service-station operator has to pay these regardless of how much gasoline he or she sells. Once these fixed costs have been recovered, the cost

of pumping an extra litre of gasoline is minimal, making the seller's margin on that litre virtually clear profit. On the other hand, if fixed costs are at risk of not being covered, the operator will often settle for the slimmest of profit-per-litre to generate the cash required to pay his or her most immediate bills.

There can be other reasons for an operator's wanting to attract more customers than usual – to promote a new product, for example, or to sell more car washes or more higher-profit items from

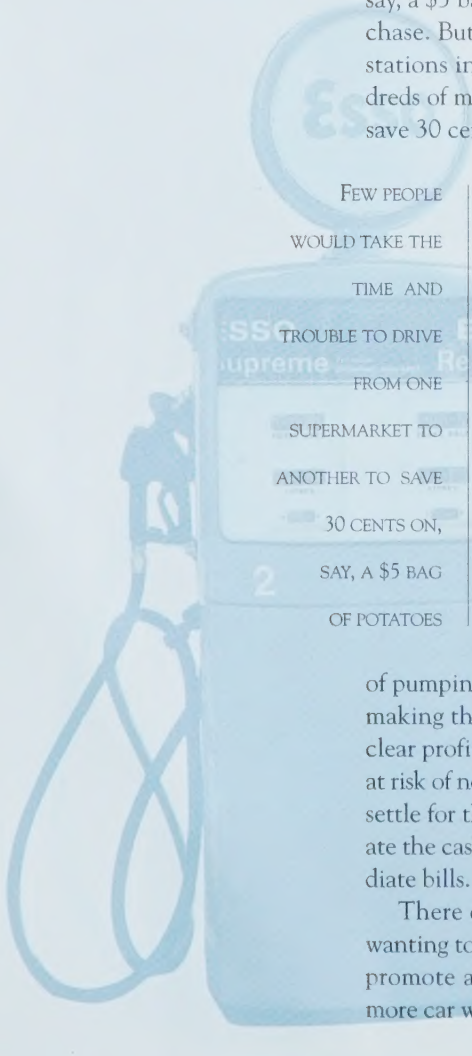
an adjoining convenience store. But in any case, when the need or desire is to attract more customers from the competition, the most reliable and effective weapon the station operator has at his or her disposal is the price of gasoline.

This is especially true for so-called independent gasoline retailers, who compete with stations operated by the major oil companies. "Gasoline retailing is really about five elements," says Imperial's Dobson. "Location, convenience, product quality, service and price. Generally speaking, the majors and the better-known regional companies have the best locations, with the best-equipped stations as well as name-brand products. They offer extra services such as car washes, convenience stores, banking machines and so on. When prices are the same, customers tend to patronize these kinds of sites. Whenever prices have been stable for a time in markets that are usually quite volatile, such as Toronto and Regina, Imperial's share of the market has risen substantially – a reflection, we believe, of our high-quality products, excellent facilities and high level of customer service."

Generally lacking the range of offerings available to the major companies, the independent service-station operator's best way of luring customers is by lowering the price of the product.

It's sometimes alleged that the major oil companies periodically lower prices to "discipline the market" – in other words, they lower prices to uneconomical levels to curtail the growth of the independent companies and operators. In fact, most price reductions are initiated by the independent marketers to attract new customers or increase their share of the market, or perhaps because they have bought a shipment of gasoline from an importer at a very low price and can afford to undercut the competition. Indeed, over the years, the independents have proved themselves to be formidable competitors for the major petroleum companies; their share of the total gasoline market in Canada has been steadily increasing during the past two decades and today stands at about 27 percent (seven years ago it was about 20 percent).

The problem with lowering prices as a marketing tactic, however, is that it seldom works for very long. As soon as other stations in the same market begin losing customers to the lower-priced competitor they immediately lower their own prices to match. Indeed, they will often undercut the original price cutter to recover their lost volume and to boost their own business. And so begins a downward spiral, with no one willing to allow anyone else a price advantage. (Occasionally, these price wars get to be just plain silly. In



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one Ontario market some years ago, the battle got to the point where one obstinate retailer was practically giving gasoline away. He got lots of business, but it didn't do much for his balance sheet.) What eventually happens, of course, is that one retailer decides that enough is enough and puts up the price to a realistic level, whereupon all other competitors in that market, who have also been losing money, breathe a sigh of relief and put theirs up too.

These abrupt price restorations create the impression that collusion and conspiracy to fix prices must be at work. "That is more a matter of perception than reality," Dobson says. "To the consumer, it might appear that prices move together, but really it's always a case of one competitor leading the way and the others in the same market following almost immediately – certainly as quickly as they can. It looks like it happens simultaneously, but really it's a near-instantaneous chain reaction. It's also a misconception," Dobson adds, "that prices always go up before a weekend or a holiday – although, again, it must seem that way to the customer who finds a higher price at a local station on a particular Saturday, Sunday or holiday. It's a fact that some competitors tend to lower their prices early in the week, when sales volumes are generally lower, then raise them later in the week, which is when most consumers fill their tanks. But it's a matter of marketing tactics. There is certainly no collusion or agreement among competitors."

It's also less predictable, says Dobson, than some consumers believe. "Price-change cycles tend to vary in both duration and timing. The consumer who actually keeps track of local prices will find that gasoline bargains are available on weekends too."

IMPERIAL'S BRIAN FISCHER HAS ANOTHER PERSPECTIVE on the pricing situation. Canada, he feels, has too many service stations for all of them to operate profitably. Many stations, he notes, were built in the 1960s and 1970s, when gasoline consumption was growing and was expected to continue to grow. In fact, as a result of conservation and more efficient automobiles, gasoline consumption has declined in Canada over the past decade or so. Today, total consumption is only about three-quarters of what it was in 1980 and is not expected to increase substantially in the foreseeable future.

"This means," says Fischer, "that the average volume sold per station in Canada – which is, incidentally, about half the per-station average in the United States – is simply too low for most of them to make a satisfactory profit. The result is intense

competition for every customer, every day."

It's inevitable, Fischer predicts, that Canada will have far fewer gasoline stations in the future than it has today. This decline can already be seen in the United States and in some European countries. Those stations that survive will be bigger and more efficient and will offer the customer a much wider range of products and services than the average corner gas station offers today. Over the next two years, for example, Imperial plans

to build about 23 new flagship stations and refurbish more than 200 existing ones to provide such amenities as car washes, expanded convenience stores, fast-food, doughnuts and automated banking machines. It also plans to close 215 stations by the end of next year in addition to the 332 that were closed between the beginning of 1992 and the end of 1994. But such changes will take time to implement. "We've already made some progress," says Fischer, "but we still have a way to go, which means that the highly competitive and often volatile market conditions we see today will probably be around for a while. And frankly, while that's bad news for the industry, it's good news for the motoring public. Having prices go up and down can be frustrating, but intense competition has kept the average price extremely low. And at the low end, the consumer gets a steal."

If and when gasoline prices do stabilize, will gasoline consumers be happier than they are today?

"I don't know," says Rick Dobson. "My guess is that if prices were ever to be the same at all stations in all markets all the time, with differences between markets reflecting only differences in distribution costs, we'd hear from our critics that the overall price level was too high. 'Where are the lower prices we used to see?' they'd ask."

As a critical personal test, I put the question to my golfing partner during a recent spring journey. Interrupting his customary semijocular tirade against "big oil," I asked, "Would you prefer it if gasoline were priced in the same way as beer in Ontario, for example – if you could buy it only at a few outlets scattered around town, if all brands were priced the same with only slight differences for premium grades, and if the price were never to go down, only up?"

He looked startled at first, then thoughtful. After a moment or two, he grinned. "Um," he said, looking at his watch, "what time did you say we're teeing off?" □

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# Star Attraction

*Little known in his native Canada outside Quebec, astrophysicist  
and author Hubert Reeves is a major celebrity in Europe*

BY BARBARA WADE ROSE

IN 1993 THE PRESIDENT OF FRANCE ASKED THE French explorer and marine biologist Jacques Cousteau to head the newly created Council for the Rights of Future Generations. The group would advise the government on environmental issues. Cousteau was to select eight people to join him on the council, men and women working in the sciences and arts whose expertise was unquestionable and whose opinions would carry sufficient weight to enable the government to act where needed.

Among the scientists Cousteau chose was a white-haired, bearded Canadian, Hubert Reeves, an astrophysicist, a popularizer of science, a best-selling author and a respected teacher. "I chose him," Cousteau explained, "because of the great good sense with which he is able to explain the most complicated theories." In a world where much of science seems complex and unfathomable to the average person, Reeves has made it his mission to explain the mysteries of the field and, equally important, to help people recognize its poetry.

Today, the 62-year-old Reeves lives for most of the year on a farm near Burgundy, but he was born and raised in Montreal and still returns to the city each year for the fall term to teach graduate students at the University of Montreal. While in Canada, he lives in the turn-of-the-century house in which he was raised. Now belonging to his son, it is an unassuming brick dwelling in the state of friendly abandon common to the homes of busy people – the walls are lined with books, and there are children's toys in what was once the dining room, next to the piano on which Reeves's mother used to play. As he sits in the front room, watching a cat sun itself in the window, it is difficult to comprehend the fact that this soft-spoken man is such a celebrity in Europe and Quebec that he attracts a crowd wherever he goes. At a sold-out lecture he gave on the origins of the universe in 1993 at the University of Grenoble in France, people who couldn't get tickets grew so agitated that the police had to be called in to prevent a riot.

But Reeves's reputation stems from more than his ability to explain the complexities of science. His scientific achievements have contributed enormously to our understanding of the origin of the universe. He made his mark in the 1970s through his work on the origins of the light elements (hydrogen, helium, lithium, beryllium and boron). Reeves and his collaborators showed that some of these light elements existed very early in the universe and were most likely created during the Big Bang. Reeves's work has lent substantial scientific support to the Big Bang theory, which suggests that our universe began with a giant explosion and has been expanding ever since. "We were engendered in the initial explosion, in the heart of stars, and in the immensity of interstellar space," Reeves writes. "We can truly say that all nature is the family of man."

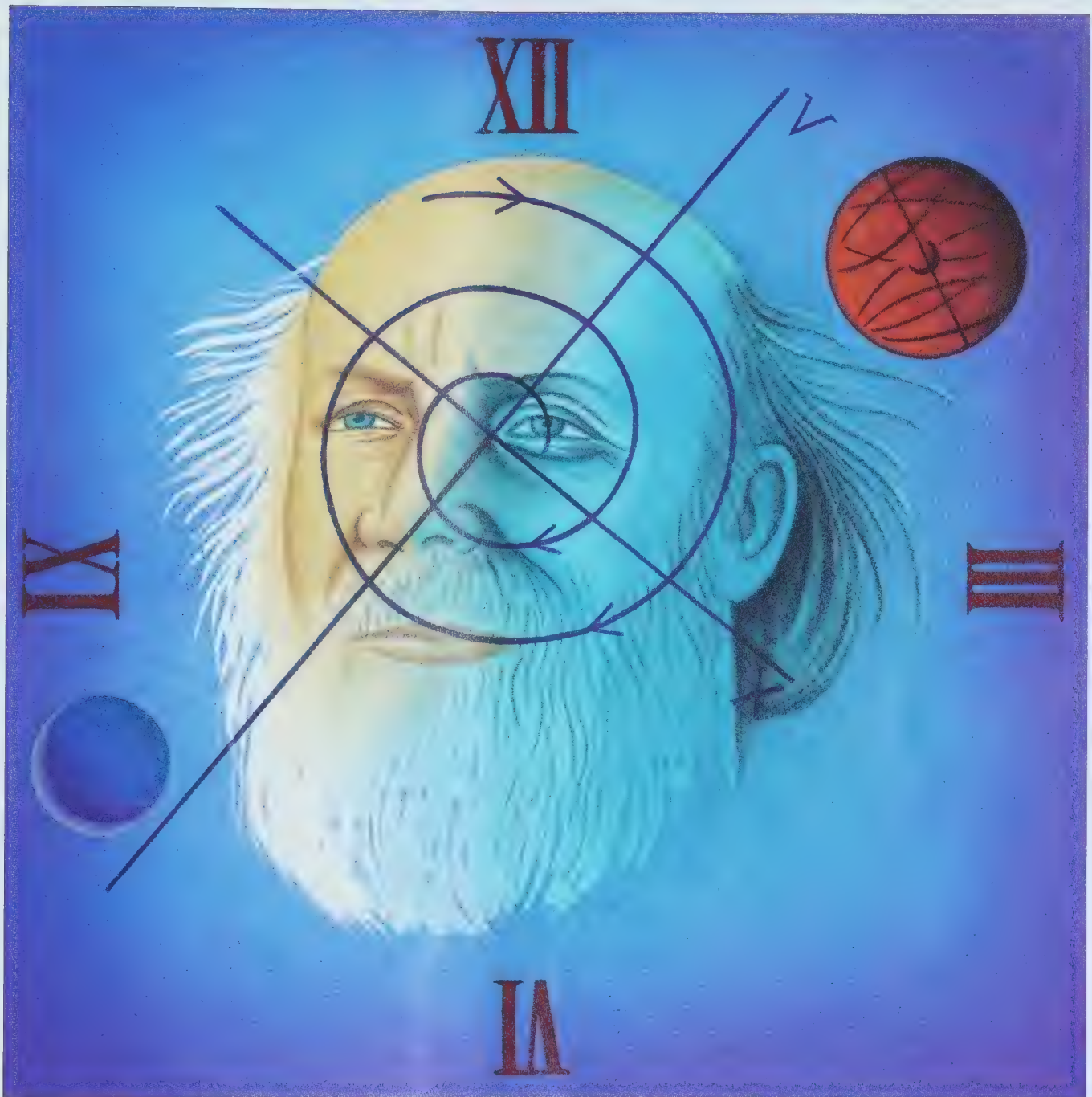
Erich Vogt, a colleague and longtime friend of Reeves's, is the former director of Canada's national laboratory on subatomic physics at the University of British Columbia. Reeves, Vogt says, was "a pioneer" in nuclear astrophysics. His authority is unquestioned in the scientific world. Reeves's research has also provided avenues for exploration by both fully fledged scientists and graduate students, many of whom have gone on to successful careers as astrophysicists and astronomers around the world. Michel Cassé, an astrophysicist who works with Reeves at the Centre national de la recherche scientifique in Paris, says simply, "I was formed by him."

Reeves has always been driven to do more than academic work, however. He is a fierce advocate of science for the masses. In the early nineties, for example, he convinced the amateur astronomical societies of France to give "a better welcome" to those whom scientists disparagingly call "heaven's tourists" – people who may not know a nova from a nebula but who nonetheless derive great pleasure from stargazing.

In his mission to explain science to the masses, Reeves has written seven books about science in carefully chosen, eloquent language that all can understand and savour. He talks regularly on

ILLUSTRATION: SANDRA DIONISI





French radio and television and lectures to old and young alike.

Apart from making science accessible, Reeves is striving, for himself as much as anybody else, to reconcile the two great branches of learning: art and science. This mission may account for the gurulike celebrity surrounding Reeves, which would otherwise be a touch perplexing. He does not, frankly, dazzle one with his appearance, gestures or way of speaking. One must conclude that it is his lack of overt charisma that has played a significant role in his success in touching the masses; to the nonscientist he seems – indeed is – friendly and approachable.

HUBERT REEVES WAS BORN IN DEPRESSION-ERA Quebec. His parents never finished university; his father travelled around Quebec as a salesman, and his mother stayed at home to raise Hubert and his two brothers and one sister. Despite their lack of formal education, Reeves's parents loved learning; they chose the house on McKenna Street specifically because it was halfway between the Collège Jean-de-Brébeuf secondary school, where so many of Quebec's intellectuals (including former prime minister Pierre Elliott Trudeau) were fostered, and the respected University of Montreal. The Reeves children were expected to attend both. "My parents," says



Reeves, "placed great emphasis on intellectual and cultural values." His mother filled the house with music from the upright piano in the dining room: one of her son's earliest memories is of watching her fingers play the lyrical notes of Beethoven's *Appassionata* sonata. His father, Reeves recalls, was fascinated by the stars and planets. He would wake the children up in the early morning while it was still dark and lead them out to the porch to show them Venus.

Every summer when the Reeves children were young, the family journeyed to the countryside – "It was like a pilgrimage," says Reeves – to visit one of the family's best friends, a botanist and Trappist monk. The young Hubert watched Father Louis-Marie at work in his laboratory and followed him like a spaniel on walks in the woods, "where he would move a rock or an old tree and show you all of nature," Reeves recalls. "He knew every possible plant."

As a boy, Hubert soaked up the love of learning that surrounded him. He wanted to be a botanist like Father Louis-Marie. He wanted to be a cellist in a quartet and play Schubert for an appreciative audience. He wanted to act in the theatre. But the astonishing grasp he had of physics and mathematics, far outshining his fellow pupils at Jean-de-Brébeuf, destined him to be a scientist.

In the early 1950s, Reeves began to study physics at the University of Montreal. "I studied in a mineralogy laboratory where we had to slice stones, making thin discs that we illuminated with ultraviolet light," Reeves recalls. "The resulting pictures were absolutely beautiful – they looked like modern paintings. I said so to the teacher, who told me not to waste time. I thought how stupid of him. Why not contemplate before you analyse?"

Around this time, Reeves spent a summer as an apprentice at the Dominion Astrophysical Observatory in British Columbia. At the end of the day he often rewarded himself by sitting on a hill overlooking the ocean to watch the sunset. One evening as he contemplated the panorama, it occurred to him that the glory he saw was nothing more than the result of the interaction of atoms with electric and magnetic fields. The young

scientist was furious at this intrusion into his reverie. Could science and art not survive in harmony? "I set off down roads I never intended to take," he writes, "in hope of reclaiming the right to enjoy in peace the sight of pink waves on a tranquil sea."

After completing his master's degree in atomic physics at Montreal's McGill University in 1955, Reeves married and pursued graduate work in astrophysics at Cornell University in Ithaca, New York, where he participated in research with Erich Vogt. Earning his doctorate in 1960, he then signed on as a teacher at the NASA-created Institute for Space Studies in New York. In 1966, he moved to Paris to continue his astrophysical research at the Centre national de la recherche scientifique, where he is a director.

In the early 1970s, he and his wife became known for the soirees they held at their Paris home. "They were as important as his seminars," says Sylvie Vauclair, an astronomer at the Observatoire Midi-Pyrénées in Toulouse and a former student of Reeves's. "Everyone was welcome, children included. He would sit on a couch and talk about the origins of the universe while the kids listened with their mouths open."

Privately, Reeves kept a journal in which he strove to link disparate concepts from physics, religion, music, biology – whatever attracted his restless intellect – and mused about the beauty of the French countryside. Themes emerged. He began to think about putting his efforts into books – not for other scientists but for ordinary people who might be, as Reeves puts it, "hungry for knowledge."

One journal became the foundation for *Atoms of Silence*, a clearly and humorously written tour and history of the universe, dedicated to "all who marvel" at it. Read, for example, a discussion of eruptions on the young earth's surface: "When the first terrestrial crust is formed, openings appear, like volcanic rents. In mighty geysers masses of gas escape to the surface. (This is like the outgassing that occurs when carbonated water freezes. I learned this to my sorrow once when I forgot about a bottle of champagne I had left in the freezer. The effects were impressive.)" In his book, Reeves links interstellar events to the commonplace – an ability that is at the heart of his success as a science popularizer.

*Malicorne*, named after Reeves's home in the French countryside, attempts to repair the split between art and science felt so painfully by Reeves more than 30 years ago in British Columbia. The book postulates that the creative impulse that gives humanity art is analogous to the evolutionary process that transforms simpler life forms into

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more complex ones. Art and science are, wrote Reeves, both essential parts of life. "Beauty is first and foremost an intimate experience involving myself and the universe," he writes. "To the universe I owe both the *internal* possibility of admiring the beautiful and the *external* objects of beauty there for me to admire, whatever their origin."

Publishers were slow to see the appeal of either book. Astronomy doesn't interest many people, Reeves was told. He was not so sure. Each year while his four children were growing up, he and his wife took them to a resort on the Mediterranean, where they met other families. The children played together, and in the evening the ritual was for the adults to give friendly, informal talks about what they did for a living. At Reeves's talks, people clamoured for more. For his vacations, he began to pack slides and a projector along with his summer clothes. He can still remember one night when no one went to bed: "They were still asking for more when the daylight came."

In 1981, he finally found a publisher, Editions du Seuil, for *Atoms of Silence*. He was told he could expect maybe 3,000 copies to be sold. Since it was published, more than half a million French-language copies have been sold. *Malicorne* was published in French in 1990 and in English three years later. More than a quarter of a million copies have been sold altogether, and the book remains a best seller in both France and Quebec. The English edition introduced Reeves to an English-speaking audience.

Marcel Arnould, an astrophysicist who once studied with Reeves and is now a professor at the Université libre de Bruxelles, expected Reeves would become popular as soon as he heard that he was giving science talks on the radio. "He has a wide range of knowledge and a gift for changing his language to suit very disparate groups," says Arnould. Sylvie Vauclair credits Reeves for single-handedly instilling "in the people of this country [France] an interest in astrophysics."

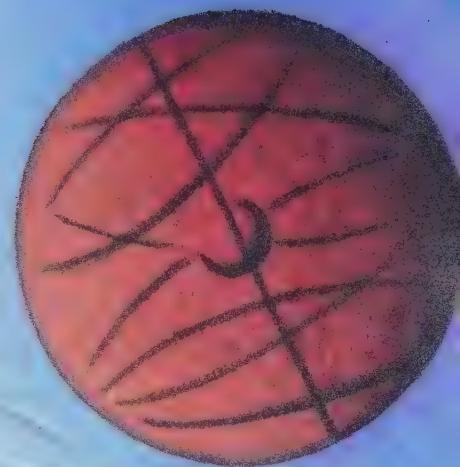
Reeves would now like to interest all Canadians in science and astrophysics as he has interested Europeans and Quebeckers. He wants, he says, to give something back to his people. Reeves sees in Canada a model for the rest of the world to follow. In Canada, he says, there are many different groups of people, and while they do not always get on well with one another, they manage to live together in peace. "I think it is important, even if it poses many problems, that Canada remains a country," he says. "The countries in which you have an integration of many different groups of people are most likely to remain democracies. The unity of Canada is a guarantee of peace."

IN THE FALL OF 1993, Reeves gave a talk at the Royal Ontario Museum in downtown Toronto. The lecture hall, a large marble-and-glass room lined with smiling stone buddhas, was filled to capacity with people of all ages and backgrounds – some students, some simply science enthusiasts. A woman in the front row was a retired artist, intent on hearing Reeves speak because she was, she said, "absolutely floored" by the first chapter of *Malicorne*.

As the audience settled itself, Reeves set up slides and an overhead projector at the front of the room. There was no fanfare. When he requested the first slide to accompany a talk purported to be about outer space, a picture flashed on the screen of two children laughing together, seated on a cart in a Peruvian village. "You may wonder why it is here," Reeves said to the audience with a smile. "By the time I have finished talking, I hope you will understand." He compared the expansion of the universe to raisins in a pudding. The raisins, he said, change their positions as the pudding expands with heat. He compared 20th-century scientists to the explorers of the last century – map makers pushing the frontiers of knowledge, aware there is a vast *terra incognita* beyond their domain. Part of the pleasure of hearing Reeves speak, I discovered, is in the way the mind reacts. It responds not only with "Ah, yes," but also with "Of course!"

Reeves's intention, as promised, did become apparent through the course of his talk. He linked the evolution of matter to the evolution of humanity. The universe is made up of increasingly complex materials, he said. If they had not been made, we would not have been made: "Man descended from the primate, the primate descended from the cell, the cell descended from the molecule, the molecule descended from the atom, the atom descended from the quark." He talked about life, evolution and the universe. The picture of the laughing children in Peru flashed on the screen once again at the conclusion of his talk, a charming notion of the summit of evolution. The audience applauded enthusiastically. Reeves had once again, as his colleague Michel Cassé says, "brought the stars into our homes." □

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# Cleaning Up

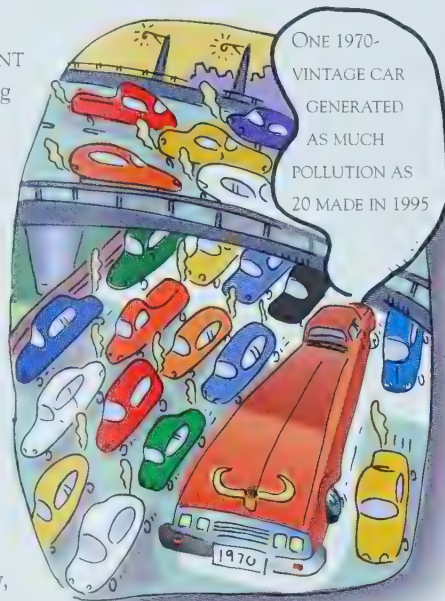
*The air we breathe is a great deal purer than it was just 20 years ago. And much of the credit for this belongs to cleaner-running automobiles and improved gasoline*

BY WYNNE THOMAS

READING ABOUT THE ENVIRONMENT these days can be a depressing experience; sometimes it seems that hardly a day goes by without the alleged discovery of some new source of pollution or the disclosure of yet another threat to our beleaguered ecosystem. So here, for a change, is some encouraging news from the environmental front: the quality of Canada's air has been steadily improving over the past two decades. And it continues to get purer by the day.

That's because, as a country, we've already done a great deal to clean up the air we breathe. We use considerably less energy in heating our homes and running appliances than we did even 10 years ago. Our "smokestack" industries – power plants, steel mills, refineries and the like – have collectively spent hundreds of millions of dollars in determined and successful efforts to reduce emissions. And, through the combined efforts of the car makers and the petroleum industry, pollution from that once archculprit the internal combustion engine has been dramatically reduced.

Today's "smart cars," equipped with more efficient engines and improved emission-control systems and using unleaded gasoline that contains detergents and other pollution-fighting additives, are making a major contribution to cleaner air. On a per-kilometre basis, Canadian vehicles today release 90 percent less of the three principal tailpipe pollutants – carbon monoxide, hydrocarbons and nitrogen oxides (the last two being precursors of ground-level ozone, which forms part of urban smog) – than they did a couple of decades ago, before emission standards were introduced. (The Canadian Environmental Protection Act sets out air quality objectives and guidelines for the control of pollutants from such sources as industrial plants and automobiles.)



The encouraging progress that has been made to date in reducing automobile emissions has been confirmed by a study recently completed by the Canadian Automobile Association, an organization that represents the nation's motorists. Richard Godding, the association's vice-president responsible for standards and performance, says that preliminary results of the study, which surveyed air quality in six cities across Cana-

da, have been very encouraging. "The automobile emission standards that have been introduced have had a huge effect on air quality," says Godding. "One interesting statistic I've heard quoted is that, kilometre for kilometre, one 1970-vintage car generated as much pollution as do 20 automobiles manufactured in 1995."

That's all good news. But we're not altogether out of the smog yet. Although no areas of Canada are subjected to the severe air-pollution problems that afflict some major urban centres in the United States, there is still room for improvement in the quality of our air.

Currently, in the country's urban areas, total motor-vehicle emissions are responsible for about 85 percent of the carbon monoxide and roughly 50 percent of the nitrogen oxides in the atmosphere. But automobiles are not the only offenders; we tend to forget that internal combustion engines also come attached to some of our more cherished personal possessions such as powerboats, lawn mowers, grass trimmers, snowmobiles, all-terrain vehicles and the like. And, unfortunately, some of these machines don't come equipped with such effective pollution controls as does the family automobile. According to *The*



*Economist*, a lawn mower that's operated for an hour can generate as much pollution as a new car that's driven for more than 13,500 kilometres.

Late last year, the Canadian Council of Ministers of the Environment, a joint federal-provincial body, established a task force to develop options for setting improved national standards for automobile emissions and to consider whether, and to what extent, additional vehicle or fuel standards may further help to improve the quality of Canada's air. This initiative was welcomed by the petroleum industry, which, through the Canadian Petroleum Products Institute, has made a number of recommendations to the task force on the best and most economical ways of improving the quality of Canada's air.

In fact, there's very little dispute among the various parties as to what needs to be done. Basically there are three areas of concern: one is the smog-forming emissions of ground-level ozone, which afflict some parts of the country during the summer months; another relates to the so-called air toxics, such as benzene; and the third is in the area of fine particulates. (Carbon monoxide is not regarded as a problem in Canada, as it is in some urban communities in the United States. Levels of carbon monoxide in Canadian cities are well within accepted limits.)

Ozone has been fingered as the number one baddie as far as the quality of Canada's air is concerned. A gas made up of molecules comprising three oxygen atoms bonded together, ozone is created by a complicated reaction that occurs between nitrogen oxides and volatile organic compounds in the presence of heat and sunlight. Ground-level ozone is the chief ingredient of urban smog and can trigger eye, throat and lung irritation. It is also believed to have an adverse effect on vegetation, including farm crops.

Like some other potentially harmful gases, ozone is a naturally occurring substance. If you take a walk through a pine forest many kilometres from the nearest urban centre, you are exposing yourself to ground-level ozone – at a level, in fact, that is about one-quarter of the recommended Canadian limit. This so-called background level of ozone is created when naturally occurring nitrogen oxides react with gases given off by the trees. In urban areas the main contributors to ground-level ozone are the combustion and evaporation of fossil fuels, various industrial processes and the evaporation of solvents found in dry-cleaning fluids, oil-based paints, varnishes and thinners.

However, higher than recommended levels of ozone are far from being a universal Canadian problem. They occur only in certain parts of the country and only on hot summer days. The three

areas of the country where recommended ozone levels are most frequently exceeded are British Columbia's Lower Fraser Valley (Vancouver and vicinity), central Canada's heavily populated Montreal-Windsor corridor, and Saint John, N.B. Most of the ozone in Saint John comes from the United States by way of the prevailing winds, so there is little that can be done locally to alleviate the situation. In the Lower Fraser Valley the problem is largely local in origin, while ozone levels in the Montreal-Windsor corridor result from a combination of local and transborder causes.

Imperial Oil chairman Robert Peterson is one of many in the petroleum industry who believe that reducing ozone levels throughout the country should be regarded as an environmental priority. "In my view," says Peterson, "limiting the formation of ground-level ozone is the primary air quality concern in Canada today. It's an area where we have already seen improvement, but further progress can and should be made."

"It's important, however, for Canada as a country to balance what needs to be done to achieve a clean environment with what we can afford and to make sure that we don't spend our limited financial resources inefficiently. My own company has embarked on a five-step plan that will see emissions from the transportation fuels we produce and sell substantially reduced."

Some of the measures in Imperial's plan have already been implemented. Over the past two decades, for example, the company has invested millions of dollars in capturing vapours from gasoline and other volatile hydrocarbons escaping from its storage tanks. "For us," says Peterson, "this programme simply made good business sense, particularly during a period of rapidly rising prices for petroleum products. However, it also makes excellent environmental sense."

Likewise, Imperial supports capturing vapours that would otherwise escape from tanker trucks when they are loaded at terminals and when they discharge their cargo of petroleum at service stations. The company has already spent \$10 million on equipment to do this at its major terminals in the Toronto and Vancouver areas and in modifying its tanker trucks in those areas. A further \$15 million has been earmarked for similar work in the Montreal-Windsor corridor. Imperial has also lowered the vapour pressure of gasoline it sells in the Lower Fraser Valley during the summer months as another means of combating ozone build-up. For its part, the Canadian Petroleum Products Insti-





tute has recommended to the task force on vehicle and fuel standards that reduced summer gasoline vapour pressure levels be mandated for the Montreal-Windsor corridor and the Lower Fraser Valley, beginning in 1997.

Imperial also espouses another cost-effective and common-sense means of lowering ozone levels: regular vehicle inspection and maintenance. Some older vehicles can spew out 100 times the hydrocarbons, 50 times the carbon monoxide and 11 times the ozone-forming nitrogen oxides as are emitted by properly tuned late-model cars. But even relatively new vehicles can pollute if they are not properly maintained.

As a new generation of yet more efficient and cleaner-burning automobiles reaches the market within the next few years, emissions are expected to continue to fall, despite an increasing number of vehicles on the road. In fact, the federal government has calculated that more than half of the total reduction in ozone-forming emissions in Canada between 1994 and the year 2000 will result from normal turnover in the vehicle population.

Beyond the question of ozone, some general environmental concern exists in Canada about a category of emissions known as hazardous air pollutants or air toxics, of which benzene is the cause of some concern.

At present, there is considerable controversy over the health effects of benzene, particularly at low exposure levels. Most experts do agree that in extremely high concentrations (of the order of hundreds of parts per million) benzene causes acute myelocytic leukaemia and other blood abnormalities. However, there is a lack of data on the effects of current exposure levels, which rarely exceed 10 parts per million.

In an effort to gather more information about the effects of low level exposure to benzene, Imperial conducted a pilot study based on groups of employees who could be exposed to hydrocarbons, including benzene, during the course of their work. The results suggest that at these realistic exposure levels, benzene presents minimal or no risk to human health. However, Neil Murray, manager of industrial hygiene and product safety, says that "the study is not considered to be definite proof, because of the relatively small size of the sample population. Based on the work done by Imperial, a much bigger study is now being sponsored by other groups including the Institute of Petroleum in Britain, to establish a larger body of data on the effects on health of exposure to low levels of benzene. Results from these studies should allow regulators to set appropriate workplace and

community exposure limits."

Despite the current absence of firm data on the health effects of low benzene exposure levels, the Canadian Petroleum Products Institute is not advocating a do-nothing strategy. It has recommended to the fuels task force that the amount of benzene in gasoline should be reduced by the end of 1998 unless, in the interim, science provides the basis for safe exposure levels.

Diesel fuel, which is mainly used in large trucks, heavy-duty machinery, buses and railway locomotives, provides a separate problem in the form of what are known as fine particulate emissions, which also contribute to pollution. In a move to reduce particulate emissions, the major petroleum companies last year started selling a low-sulphur diesel fuel at several thousand locations across Canada. The Canadian Petroleum Products Institute has recommended that the industry be required to make low-sulphur diesel fuel available on all of Canada's highways by October 1997 if the market demand justifies the additional investment that would be required.

Clearly, in society's drive towards a cleaner environment, much remains to be accomplished in building more efficient engines and in reducing emissions from gasoline and diesel fuel. But we have come a long way in a relatively short time. The automobile and petroleum industries have made massive investments in new technology that have already paid handsome dividends.

Today's gasoline is cleaner and performs better than the fuel we filled our tanks with just a decade ago. As the Canadian Automobile Association's Richard Godding notes, "There has been a clear improvement in the quality of gasoline. When fuel injection was first introduced there used to be lots of complaints about fuel fouling up the injectors in vehicles. These days we hear virtually no complaints about gasoline. Most motorists seem to be very satisfied with the quality of gasoline they are getting." And there's no doubt that the fuel we will fill our cars with in the next few years will be further improved. Even so, it would be silly to believe that we can hope to eliminate every last speck and molecule of emission.

Is there, perhaps, a better way to go – an environmentally benign, nonpolluting alternative to gasoline? Some people think that there is and have advocated the use of a range of alternative fuels, including compressed natural gas, liquefied natural gas, propane, ethanol, methanol and electricity. Indeed, each of these has its own particular merits, and some of these fuels have been – and continue to be – produced and sold by the industry along with gasoline and diesel fuel. However, the clean-air benefits and cost effectiveness





of these fuels are debatable. They do not by any means constitute a universal panacea.

Certainly some of these alternative fuels, particularly compressed natural gas and propane, offer advantages in air quality over today's gasoline, and some of them have a role to play in specific circumstances. For example, buses powered by compressed natural gas (as some have been in Paris for more than half a century) may well make sense in congested urban areas. But these fuels offer too few environmental advantages over the cleaner-burning gasoline of the 1990s – and considerable economic disadvantages – to justify the high expectations that some people have of them.

Some alternative fuels are, at best, environmentally neutral and may actually be more damaging to the environment when their method of manufacture and distribution is taken into account. The idea of the electric car, for instance, has intrigued many. It is nonpolluting and sounds attractive for that reason. But, of course, the electricity it uses has to come from a generating plant, which emits its own form of pollution. Overall, the International Energy Agency, a joint multinational body, has concluded that the environmental benefits of such alternative fuels have been greatly exaggerated by some of their proponents.

There are also practical limitations to these fuels. Propane, for example, is very clean-burning, but it cannot yet contribute in a meaningful way to reduced emissions because distribution systems are limited. Also, like its cousin, compressed natural gas, it requires bulky storage tanks. Methanol, another alternative, is also clean-burning and has a lower ozone-forming potential than gasoline if used in specially designed vehicles. However, it does have unique toxic properties, can corrode engines and requires special storage equipment. Ethanol, commonly produced from corn and other grains and generally blended with gasoline, is expensive and requires about as much energy to manufacture as it provides when burnt.

But perhaps the major problem with alternative fuels lies in the area of cost-effectiveness. In a sense, the word "alternative" is somewhat of a misnomer, since most of these fuels already play an important role in various sectors of the energy market, such as industrial processing and commercial and residential heating, light and power. However, with the exception of propane, they have not been able to compete with conventional transportation fuels, despite the fact that they are largely exempt from taxes, which constitute a large part of the retail price of gasoline.

Claude Brouillard, the president of the Canadian Petroleum Products Institute, notes that "the market has struck its own balance between com-

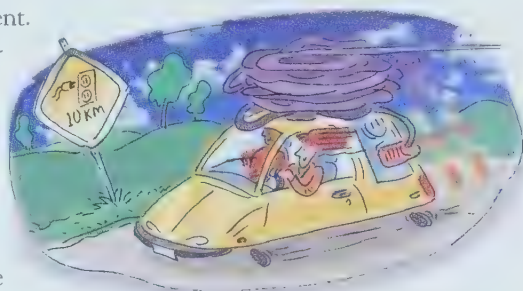
peting sources and demands. Trying to force-fit alternative fuels into the vehicle transportation sector is counter to the natural direction energy markets have taken – diverting energy sources from applications in which today they are very competitive to ones in which they are not."

Indeed, a healthy environment requires a strong economy to fund the heavy investment required to provide cleaner air. Even so, there's a limit to what the country can afford without affecting its international competitiveness and, ultimately, its ability to afford a clean environment.

As Don Smith, manager of environment and safety for Imperial's products and chemicals division, puts it: "It all boils down to how we, as Canadians, want to spend our money. We may not be popular for saying, 'Let's factor economics into the environmental equation,' but we have to do this. We need to consider economics because it costs money to be clean – just look at the environmental records of poorer countries. What we need to do is to take a logical, sound approach to environmental protection, considering all the information in mapping a solution, rather than attacking the problem in a piecemeal way. In this, as in other areas, Canada needs to focus on its own environmental priorities to achieve maximum benefits for the least cost."

Canada's petroleum producers believe this objective of getting the most for the least can be met by the continued use of improved oil-based transportation. The "responsible and affordable steps" the Canadian Petroleum Products Institute has recommended would cost the industry in the area of \$185 million annually. Representing more than a third of what the industry earned in refining and selling gasoline in 1993, that amounts to, as the institute points out, a significant commitment by any measure.

When it comes to the quality of the air we breathe, as with the water we drink, we Canadians can count our blessings. There is certainly room for improvement in our air quality, but we do not have problems of the severity faced by some parts of the United States and Europe. At some time in the future, Canadians may decide that the situation requires more costly and stringent measures. But, as Imperial chairman Robert Peterson noted recently, "Surely that is not the place to start, especially given our experience over the past 20 years, which has demonstrated conclusively that Canadian air quality can continue to improve through cooperative effort." □





# The Yukon's Lonely Island

*Once an important Arctic whaling station, remote  
Herschel Island is now a territorial park*  
BY PAUL CHARD

SITTING ON A SMALL GRASSY HUMMOCK, THE SUN warming one side of my face, a sharp breeze cooling the other, I gaze out at the Beaufort Sea. The currents of time, like the currents of the sea, have brought many changes to the shores of Herschel Island.

Known for centuries as Qikiqtaruk, which means "the island" in the language of the indigenous people of the western Arctic, Herschel Island measures only 15 kilometres from east to west, averages about half that from north to south and reaches just 183 metres at its highest point. Two kilometres from the mainland, it is the only island off the coast of the Yukon; to the north, there is nothing but the polar ice cap.

Both desolate and quietly beautiful, Herschel is a place of contradictions. The all-but-empty buildings and the seemingly forgotten graves, with their fallen-down headstones, exude a certain loneliness – almost despair. Yet, in summer, the island's low rolling hills look friendly and inviting, and the fragile arctic flowers have a delicate beauty and seem, at first thought, to be at odds with their harsh environment.

It was approximately 40,000 years ago that glaciers thrust silt up from the sea floor to create Herschel Island. With no bedrock to support it, many parts of the island are eroding into the sea. At the same time, currents are building up a series of sand spits on its southern edge.

While the sea has shaped the island physically, people have defined its character. From the small hill on which I am sitting, I can see the narrow sand spit that at the close of the last century was home to the vibrant whaling community of Pauline Cove. Today, empty warehouses and cabins are among the few easily discernible signs of human intrusion on the Herschel Island.

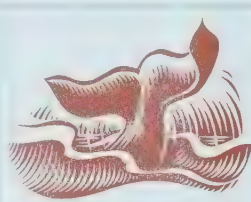
Earlier, I walked among those well-kept but coldly empty structures. In the 102-year-old building known as Community House, I leafed through pages of old photographs; they tell only a small part of the story of what life on the island was like a century ago. The American whalers wear happy faces for the camera; their smiles hide the hardships they endured in this isolated northern environment.

They came to the icy waters of the Beaufort Sea in pursuit of the bowhead whale. The wintry months of 1894-95 – when whaling was at its peak – saw 15 whaling ships and 1,500 men and women wait out the cold weather at Herschel Island. That winter, Pauline Cove was the largest community in what is now the Yukon (it was still more than a year before gold would be discovered in the Klondike). By 1907, however, the whale population of the Beaufort Sea had been all but exhausted, and the whalers ceased to come to Herschel Island.

But the passing years have brought others to the shores of the island. Fur traders found their way here. An Anglican missionary arrived in the summer of 1893 and by 1897 had established a mission to bring Christianity to the Inuit. And in 1903 the RCMP arrived to exert Canadian sovereignty over the island.

But long before the white man set foot on the island, the Inuit had been coming. For centuries, Herschel has been a hunting and fishing stop for the indigenous people of the area; in fact, evidence of seasonal occupation of the island goes back 1,000 years.

With the white man's arrival, however, came the opportunity to trade for European goods. "It became a regular spring ritual for the Inuit to wait for the whaling ships to arrive so trade could begin at Herschel," says Agnes Gruben White, an Inuvialuit (the name taken in recent years by Inuit of



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PHOTOGRAPHY: PAUL CHARD / ILLUSTRATION: GARY ALPHONSO





*The only  
island off the Yukon  
coast, Herschel is both  
lonely and inviting.*



the western Canadian Arctic) woman who lived on Herschel Island for a year during the early 1960s and who served as an interpreter when an oral history of the island and the surrounding area was being compiled a few years ago. "Whoever had schooners would pick up people who had no schooners. Everyone brought their furs to trade for the year's supplies. It was a trading post for the people, a place to stay for the summer. That was the only time that the Inuit of the region got together in one spot."

The island was given its English name by the British explorer Sir John Franklin, who named it after his friend Sir John Herschel, the well-known British astronomer. Franklin, a veteran naval officer, had been sent to North America by the British government to map its coastline; he first sighted Herschel on July 17, 1826.

One hundred and sixty-one years later, the little Arctic island became Yukon's first territorial park and is jointly managed by the Yukon government and the Inuvialuit, whose land claim settlement includes the island.

A priority for the park is the preservation of the historic structures on the island, and over the past few years the Yukon Heritage Branch has stabilized all the old buildings that were still standing, restoring a few of them.

Along Main Street, as one narrow road is colloquially known among the park staff, are a number of indentations in the ground –

they are all that remain of the Inuit sod houses that once lined the street. Built of wood and covered with earth and grass, these houses were warm in winter and cool in summer. At the end of Main Street stands a building that has been taken over by some of the island's abundant wildlife. A house built by the Anglican missionaries in 1916, it is now home to Canada's most westerly population of black guillemots, somewhat comical-looking birds that must beat their wings furiously to keep their pudgy bodies aloft. Bracing has been installed to ensure that the building remains part of the landscape and a home for the guillemots, and artificial nesting structures have been built inside the building and on its roof.

The guillemots are not the only birds that seek refuge on the island; thousands of sea ducks, for example, spend the summer on Herschel's south

shore. "The island provides a bit of a refuge from many ground predators on the mainland," says Dave Mossop, a bird biologist with the Yukon government. "Herschel is this little blob up on the edge of the continent – they can go no farther north." Being a final landing spot and a safe haven means that Herschel sees a lot of unusual birds, explains Mossop.

EROSION HAS SCARRED THE shores of Herschel Island, leaving dark cliffs crowned by the low rolling hills. In summer, shrouded in mist, as it often is, and covered by an emerald blanket, Herschel provokes images of the coast of Ireland. But the sim-

ilarity between the two isles ends there. Herschel is, after all, tundra.

Walking on Herschel can be difficult – I discovered just how difficult on a hike from Pauline Cove to the other side of the island with Marlene Bailey, the park's interpreter. The permafrost and scrubby vegetation have conspired to create low hummocks that make walking difficult. Spongy, grassy tufts just large enough to sit on, the hummocks present a challenge even to the most seasoned hiker.

Bailey is the soft-spoken daughter of Agnes White. She lived on the island for one summer with her parents when she was growing up. Her father was a special constable with the RCMP and was stationed here shortly before the post was closed in 1964.

We started our walk on the beach – the walk-



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Two kilometres from the mainland, Herschel has seen human life for at least 1,000 years.





ing is easier there – and, as we picked our way through enormous pieces of driftwood that had washed up on the shore, Bailey pointed out some cedar logs. I hadn't thought to question where the wood had come from. Bailey reminded me of where I was and of the fact that no trees grow either on the island or along the Beaufort coast. Most of the wood comes down the Mackenzie River, she told me; some of it is carried there by its tributary, the Liard, which begins in the Yukon and flows through northern British Columbia and back into the Yukon, where it joins the Mackenzie. But the cedar logs are a bit of a mystery. The park ranger, Andy Tardiff, believes they wash down the rivers of northern Russia into the Arctic Ocean, eventually finding their way to Herschel Island.

Another possibility is that they have been carried by ocean currents from the coast of British Columbia or the Alaska Panhandle, through the Bering Strait and along Alaska's Arctic coast, coming to rest on Herschel Island. Either way, it's an amazing journey.

Another remarkable aspect of the island is its flora. Considering the fact that less than the top one-third of a metre of soil thaws each summer, the variety of plant life is quite extraordinary. By the middle of August, many of the flowers have died, but nonetheless, as we continued our walk, Bailey managed to find – in protected gullies and on northern slopes, where flowers bloom late – a number of arctic wildflowers. There were a few battered samples of her favourite, the elegant paintbrush, whose petals are brushed with pink and yellow, as well as one or two droopy purple monkshoods and the odd pale yellow arctic poppy.

We came upon a mountain sorrel, and Bailey told me to eat one of the leaves; it melted on my tongue before the flavour – something close to raspberry – burst out. Later, her keen eye spotted some blueberries. The plants, barely taller than the tiny berries themselves, were scattered sporadically over the tops of the hummocks.

From a ridge on the other side of the island, Bailey and I scanned the sea with binoculars for beluga whales and seals. The wind had brought ice flows close to shore, but no seals had floated in with them. Nor were there any whales this day.

The hike back to Pauline Cove was dour. The wind, which had been at our backs before, had intensified and now brought a cold rain. We spent most of the walk looking straight down at our boots, trying to protect our faces from the pelting rain.

This was the first fall storm in the Mackenzie Valley. The winds gusted to more than 90 kilometres an hour. Back inside a building at Pauline

Cove we listened to the wind howl as it was forced to yield to anything solid enough to withstand its force. Closing the door required both hands and all my strength.

With winds like these in the middle of August, what must it have been like during those months from mid-October to mid-June, when the whalers, with their ships locked in the frozen harbour, waited out the cold weather on the island? "It was a pretty tough existence," says Jeff Hunston, director of the Yukon government's Heritage Branch, "and a dangerous one." The winter – with its temperatures of -40 Celsius and colder, ferocious winds and six weeks of almost complete darkness – took many lives. But it was not just in winter that the whalers faced danger. Whaling itself, particularly in Arctic waters, was a risky business.

Each of the large whaling ships carried four or five smaller whaleboats. The boats, less than

*Preserving historic structures, such as this ice house, is a priority at Herschel Island.*



10 metres long, pursued the whales, all the while endeavouring to avoid ice. On board, the crew manoeuvred the boat into position, readying the harpoon and explosives that were used to injure the whale and shorten its fight. "Success in whaling is entirely up to the man," wrote Hartson Bodfish in one of the few accounts recorded by the adventurous men who pursued the whales to the Arctic. "His judgment must be pitted against the natural wariness of the whale, and he must possess accurate knowledge of the whale's habits and characteristics. Even then the whaleman is due for a surprise now and then...."

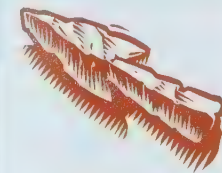
It was the bowhead that was the prize catch for the Herschel whalers. Fashions of the day demanded that ladies' skirts be full, and the hoops



that supported those skirts were made from baleen, which hangs in strips inside the roof of the mouth of some whales to filter food out of the water taken in as they swim. In addition to skirt hoops, this strong but flexible substance was used to make ladies' corset stays, buggy whips, fishing poles and umbrellas.

The bowhead, which is nearly twice the weight of a grey whale, is a particularly good producer of baleen – a large bowhead has about 700 strips of it, some more than three metres long. Bowheads are relatively easy whales to kill, but whaling of any sort in those days was a dangerous undertaking – a misplaced harpoon had the potential to kick off a pursuit that could last hours. Once hit by the whalers' harpoons, the whale would take off under the pack ice, towing the whalers and their boat behind it. Bodfish recorded one fight between the whalers and their unfortunate quarry: "The whale kicked then and knocked the bottom completely out of the second boat. We picked up the crew, grappled for the line and picked it up, then used all the bombs I had and left the whale for dead.... When we got down there with the ship the whale had gone. We picked up the wrecked boat and eventually found the whale, which we struck again. He was groggy, which may have been a good thing for us, as he rammed the ship and the ice until twenty-three bombs had been exploded in his vitals and eight to nine hours had passed before he was finally dead."

Gravestones  
testify to the perils  
faced by whalers who  
wintered on Herschel.



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AS DID BOTH SOCCER  
AND BASEBALL

With the exception of the officers, whalers were not well paid. The home ports of most of the whaling ships that plied the Arctic waters were in California or, in some cases, on the eastern seaboard of the United States. Bodfish was the first mate on the steam schooner *Mary D. Hume* the first year she wintered at Herschel Island (over the years he spent several winter seasons on the island, some as captain of his own ship). A diary entry from his first stay on Herschel reads, "On November 29th the sun disappeared altogether. For days it had been hanging low on the horizon before it dropped out of sight." Stranded on a tiny Arctic island, far from all that was familiar and knowing that daylight would not return for several weeks, must have been an eerie experience.

Accounts of that time are filled with stories of men trying to desert. Some, so deranged by their surroundings, even attempted to walk more than 900 kilometres over frozen sea and land to cash in on rumours of gold in the Klondike.

In preparation for winter, the captains would anchor their ships in Pauline Cove. Crews would live on board during the frigid wintry months. Often the sails would be used to create a large tent over each ship's deck. With snow piled on the outside for insulation, these "bull rooms," as they were known, allowed the crew to live inside in some degree of comfort. They also provided an ideal setting for the occasional boxing match, normally held when it was too cold for outdoor physical activity.

When they were able to venture outside, the whalers indulged in a variety of sports to help ward off cabin fever. Sledding and skiing quickly became popular, as did both soccer and baseball. "Fields" for both sports were marked off on the ice of the cove, and leagues were established.

It was during a baseball game on an unseasonably warm day in March 1897 that a storm whipped up in a matter of minutes. The men scrambled for the nearest buildings and ships while the temperature reportedly dropped from -7 Celsius to -29 Celsius in a matter of minutes. When the storm had blown itself out the next morning, five men were found dead, having been unable to find their way to shelter in the blowing snow.

During the 15 winters the whalers spent on Herschel, 39 perished from disease, cold and accidents. Two of the bodies were shipped south; the rest remain frozen in the permafrost a kilometre



from Pauline Cove. In the summer, the clean white grave markers of the whalers stand out against their green backdrop, bathed by the long rays of the sun. Nearly every person who comes to Herschel Island visits those graves.

The markers are actually replicas, placed on the graves prior to Herschel's becoming a park in 1987. The Yukon government recovered the originals, which are now stored in Whitehorse. The markers show that the men buried in these arctic graves were, with a few exceptions, between the ages of 18 and 25 when they met their deaths.

But the graves of the Inuit outnumber those of the whalers by about four to one, and it is believed there are many unmarked Inuit graves on the island. When the whalers arrived in the 1880s, the Inuit population in the Beaufort region was estimated to be more than 2,000. European diseases, however, began to take their toll on the Inuit; by the time the whaling period was over, less than 200 Inuit remained alive in the area.

Andy Tardiff, the park ranger, has his own connection to the island. His grandfather was born here. Tardiff came here for the first time when he was 17. Nearly 10 years later, he began to return to the island to hunt and fish with various members of his family.

Today, he says he wouldn't trade his job on the island for any other. He spends most of each summer here now. But with more than 500 visitors last summer, Herschel is a very different place from the island Tardiff first visited. "There was hardly anyone around in those days – maybe just some biologists and other scientists."

Many of today's visitors come to the island at the conclusion of a one-week rafting trip down Yukon's Firth River. Most arrive on cruise ships; others fly in from Inuvik for just a few hours.

The majority of the Inuvialuit who currently come to the island live in the Mackenzie Delta communities of Aklavik, Inuvik and Tuktoyaktuk and travel to the island by boat in the summer.

I stopped in Inuvik on my way to and from Herschel Island. It was while I was there that I spoke with Esther McLeod.

McLeod lived on Herschel Island with her grandparents during the 1940s. She says there were four or five families living on the island during that time, plus members of the RCMP. She was only seven when she left and has never been back. And while her memories are fading, she says the island has a special place in her heart. "There are some things that you don't forget," McLeod says. "Some things that you don't want to forget."

By the time McLeod was born, several trading companies, including the Hudson's Bay Company, had come to and gone from the island, unable to

turn a profit despite the abundance of arctic fox. McLeod remembers things like sliding down hills on polar bear skins. She says they didn't think anything of using the skins for this purpose because they weren't worth anything then. "We had no TV, and I don't remember even listening to radio," she says. "We watched bears and ice move."

Agnes White described a similar sense of serenity when I asked her why the island is so special to her. "Springtime," she replied. "The weather's so beautiful. I can't describe it, but it's beautiful on the warm days, when it's clear. There's a peacefulness. It's silent. The peacefulness, the sun and the hills."

The past century has been one of turmoil for Herschel Island. Its designation as a territorial park seems to make its future more stable. But the number of visitors is slowly but steadily increasing, and they will put stress on the fragile envi-

*In summer, Herschel is an island of scrubby vegetation and boggy ground.*



ronment. The number of visitors can triple, however, before there will be much concern.

And while the flow of people to the island continues, so do the natural processes that will shape its future. One of the warehouses built by fur traders is dangerously close to having the sand beneath it washed away. The continued slumping of the frozen hills threatens a graveyard containing about 100 Inuit graves. The changing course of a nearby stream threatens to wash away parts of the same graveyard.

There's little that can be done when fighting such powerful forces, concedes Jeff Hunston, director of the Yukon's Heritage Branch. "Maybe the best policy in that case is to let mother nature take her course." □



# Puppeteers Par Excellence

*The intellectually challenged members of Famous People Players have earned international acclaim for their inspired, artistic performance*

BY SHONA MCKAY

"IT HAS BEEN 21 YEARS SINCE GREGORY came home and said, 'Mum, I'm joining a puppet show.'" June Kozak is recalling the day her now 42-year-old son announced his intention to join Famous People Players, then a fledgling troupe, whose intellectually challenged members have become masters of the art of black-light puppetry. Originated in Japan, the technique involves ultraviolet light and life-size fluorescent puppets operated by black-clad – and therefore unseen – puppeteers. The result is a visual simplicity and elegance that belie the precise and complex actions of the puppeteers.

"When Gregory was five, he suffered brain damage as a result of an illness," recalls his mother. "As he grew older we were very concerned about what he was going to do in life. The most we expected was that he would get a place in a sheltered workshop. So when he told me about the puppet group, I was sceptical. Given the extent of his disabilities, I thought that his idea of becoming a puppeteer could only be a dream."

Kozak smiles as she acknowledges that, in spite of her doubts, the dream has become a near-wondrous reality. "Gregory eventually managed to do everything the company demanded of him," she says. "Not only did he learn to work the puppets, he developed in other ways too. He became responsible – he takes care of his own props, for example. He also began to travel

around the city by himself, something he had never done before. He used to be shy and dependent. Today, he is a self-confident, accomplished person. Famous People Players has transformed my son's life."

Gregory Kozak is not the only individual to have benefited from the troupe's magic. Since it was formed in 1974, Famous People Players

has given scores of Canadians with intellectual disabilities the opportunity to live lives rich with purpose. At the same time, it has touched the hearts of audiences and the sensibilities of critics around the world. Most important, it continues to send a strong message: all human beings – regardless of intellectual ability – can have ambitious goals and, with training and support, can

achieve them. Says Jim Dreiling, president of Goodwill Toronto, an organization that has supported and applauded the black-light theatre company throughout its history, "Famous People Players gives individuals with barriers one extremely important thing – hope. It shows people who have too often been told that life doesn't hold very much for them that they have the right to dream – and that their dreams can come true."

According to Susan Young, head of charitable donations at Imperial Oil, it is Famous People Players' evident ability to foster the overall develop-



*Dazzling audiences from Broadway to Beijing, members of the Toronto-based Famous People Players, such as Gord Billinger (top), use large fluorescent puppets and ultraviolet light in their masterful performances.*







Indeed, the list of stars who are among the group's biggest fans reads like a *Who's Who* of North American show business



Josh Balanser (top), Else Buck and other members of Famous People Players have sent the world a powerful message – people with intellectual difficulties can reach for the stars and succeed.

ment of people with mental, and sometimes physical, challenges that is behind Imperial's long-term support. Since 1986 it has contributed more than \$150,000 to Famous People Players. "The majority of the money has gone towards the development of the understudy school, which provides training in daily living skills as well as theatre," says Young. "That's a programme we feel particularly gives young people the opportunity to acquire theatrical and, just as important, social skills. It focuses on the growth of the total individual."

Helping people with challenges attain new heights has undoubtedly been the reason why so many entertainment luminaries have also chosen to support Famous People Players. The list of stars who are among the group's biggest fans reads like a *Who's Who* of North American show business. At the head of the list is the actor Paul Newman, who funded the kitchen at the troupe's dinner theatre through the sale of Newman's Own products. Another high-profile patron is the pop superstar Phil Collins. Along with inspiration, Collins provided the money to equip the company's newly built rehearsal and workshop facility.

The Canadian entertainers Don Harron and Catherine McKinnon are also longtime supporters. "We feel like we're members of the family," says Harron, who has both written about and performed with the troupe. "I first became acquainted with Famous People Players in 1977. When I saw the wonderful magic that was taking place – both on stage and off – I knew I wanted to be a part of it." Adds McKinnon, who is married to Harron, "It has been a marvellous experience to watch the company grow – and to watch how it has helped change societal attitudes. Back when Famous People Players was founded, it was still common to use the word 'retarded.' Now, most of

us have a new understanding and sensitivity towards people with intellectual challenges. I believe Famous People Players has helped bring that about. The group has done – and continues to do – great work."

While lauding Famous People Players for the social good it does, one must never forget that the troupe is special not just because it shows the world what's possible but also because of the calibre of its performances. So said no less a star than Liberace, the troupe's first famous mentor, who used Famous People Players to open his Las Vegas act for several years before his death in 1987. "It's not because of who you are that makes people laugh or cry," said the entertainer after seeing the company perform for the first time. "It's because you're truly talented performers."

AS THE LIGHTS DIM IN THE 120-SEAT DINNER theatre that is Famous People Players' home in midtown Toronto, a bodiless figure, given form by a top hat, spats and a cane, appears. This apparition – in Day-Glo pink, yellow and green – has become a symbol of Famous People Players, a trademark master of ceremonies that has raised the curtain on hit shows from Broadway to Beijing. The dancing form is also a fitting icon to represent Diane Dupuy, the founder, creative director and driving force behind Famous People Players.

Picture a young girl, an outcast and a loner, growing up in Hamilton, Ont. A poor student, she is regularly snubbed by the other school children – who call her "dummy" – and admonished by a heavy-handed father. She turns to a make-believe world, where she finds solace and joy. Knowing that her horse Silver is waiting for her at the school yard gate allows her to bear the titters of her fellows as she stands at the blackboard and fails to come up with the answer to a long-division sum. Hearing neighbourhood kids laugh and applaud as she entertains them with her homemade puppet theatre almost makes up for the all-too-usual taunts and jeers.

Such are Dupuy's memories. Yet, as much as the woman who dropped out of school at age 16 can still lament and cry over her past, the accomplished 46-year-old member of the Order of Canada, who now boasts honorary degrees from three universities, also credits a troubled childhood with giving her the strength, imagination



and sheerchutzpah to turn an idea many considered outrageous into a stupendous international success story.

"One day when I was 19 and unemployed – again – I rediscovered the puppet theatre I had as a child," recalls Dupuy. "I remembered how good I had felt working the puppets. The idea grew that perhaps I could make a living performing." The thought led to gigs at local shopping malls and, in the summer of 1970, an engagement at the Canadian National Exhibition (CNE) in Toronto. For the occasion, Dupuy created a skit involving puppets resembling the then prime minister Pierre Elliott Trudeau and the actress and singer Barbra Streisand. These characters were made by the creative and seemingly tireless Mary Thornton, Dupuy's mother, who at age 79 continues to invent and make the hundreds of puppets and props used by Famous People Players today. They were also the first of what has become a long and celebrated group of puppets that now includes Elvis Presley, Phil Collins, Dolly Parton and Liza Minnelli.

The engagement was important in two respects. To begin with, Bill Cosby, who saw the show and liked it, struck up a conversation with Dupuy. "During our chat he asked me if I knew about black-light theatre," remembers Dupuy. "I didn't, but what he said made me interested in it. Soon after, I went to the library and read up on it. The seed was sown." The CNE engagement also brought Dupuy acclaim. The public loved her act. Moreover, *The Toronto Star* put the cheeky Trudeau and Streisand puppets, along with their creator, on the front page.

The publicity brought Dupuy more work as well as the last essential ingredient in the mix that would become Famous People Players. "I got a call one day asking if I would perform at Surrey Place Centre [a facility for intellectually challenged people]," she says. "At first I was reluctant. I thought the people would be strange." Dupuy quickly learned how misplaced her fears were. In her autobiography, *Dare to Dream*, she recalls the occasion:

*There were about 50 children in the audience, and, during my performance, one of them had a seizure. Nobody laughed. They all went to help her, straightening her clothing and making sure she hadn't hurt herself falling. [This incident particularly impressed Dupuy as it brought to mind a memory from her own school days involving a young girl who had an epileptic seizure. The response from the children then had been laughter.] As for their reaction to the show, I had never had such a great audience. They laughed, cheered, and*

*clapped all the way through.... I suddenly thought to myself: Just who is retarded here? These kids helped the girl who had a seizure; these kids loved my show and made me feel good."*

ACCORDING TO DUPUY, THE visit to Surrey Place marked a turning point in her life. "I can only call it a miracle, because I have no other way of explaining the amazing feeling of *belonging* that surged through me when I brought my puppet show to those children," she writes. "Those children made me feel less of an outsider ... they made me want to share my magic with people like them. Special people."

In spite of her belief in the rightness of her path, there's no question that Dupuy's journey – turning a concept into an actuality – was an arduous one. Establishing a professional puppet troupe involved finding rehearsal space, working capital and, most important, the performers who would bring Famous People Players to life.

The last proved to be particularly difficult. Repeatedly, schools and parents turned down Dupuy's requests for individuals to be allowed to join her company. "The attitude then was terribly patronizing," she notes. "The way most people treated exceptional people was to pat them on the head and tell them they were loved. That was it. When I explained that I wanted to train individuals for something better than a life in a sheltered workshop, the caregivers just shook their heads. They said it was impossible."

Dupuy's method of dealing with people with intellectual difficulties – and everyone else for that matter – is to demand effort. Considerable effort. Since the days when she got her first lot of performers-in-training from the Haney Centre in Toronto, Dupuy has perfected a directorial style that blends autocracy with benevolence.

For instance, she may well insist – often loudly – that a fatigued and frustrated performer repeat over and over again an action that is giving him or her difficulty. The player rehearses the action – for months if necessary – until the movement is



When Lesley Brown (bottom) joined the troupe, she wouldn't let go of her mother's hand. Now she is an independent woman with such a reputation for being happy that she is called Giggle Juice by Darlene Arsenault (top) and her other cohorts.



*"Famous People Players has grown to become a symbol  
of inspiration for people with intellectual  
disabilities and their families around the world"*



Susan Ellis (top)  
and the other troupe  
members must  
care for specific  
props. It is one  
of a set of rules that  
helps foster a sense  
of individual and  
group responsibility,  
says Diane Dupuy,  
founder of Famous  
People Players.

done properly. When that moment comes, Dupuy is the first to applaud.

Given Dupuy's deep belief that man's reach should always exceed his grasp, it's not surprising that training as a Famous People Players performer takes place offstage as well as on. For example, new members are often charged with the responsibility of delivering company correspondence throughout downtown Toronto. City traffic, buses, streetcars and subways can be a daunting prospect to young intellectually challenged people who have never before travelled alone. However, armed with a map, bus and subway tickets, an address and the advice to call if lost, the initiates have always achieved their objectives.

Such challenges, believes Dupuy, help the members of her company to learn to be responsible for themselves and, eventually, for others. "Our company operates as a team," she says. "We must all be responsible to the team." To foster the sense of individual as well as group responsibility, Dupuy insists that all members adhere to a set of rules that includes getting to work on time and caring for specific props. The players also assume duties ranging from waiting on tables to cleaning up in the organization's restaurant.

There's no doubt that Dupuy's tough-love approach works. Certainly, audiences and theatre critics are united in their praise. On the occasion of the company's first Broadway show, *A Little Like Magic*, in 1986, no less important a journal than *The New York Times* declared: "There are times that *A Little Like Magic* does seem like magic: the magic of theatre, the magic of diversion, the magic that impels one to say, 'That's entertainment.'"

But the rewards go beyond critical acclaim. Both troupe members and their families say the real magic of Famous People Players is that it can – and does – radically change lives for the better.

Just ask Benny D'Onofrio. A member of Famous People Players for 18 years, D'Onofrio almost didn't survive his first season with the company. "I was shy outside my home," recalls the 39-year-old performer, who immigrated to Canada from his native Italy as a child. "I didn't know my left hand from my right. I had never been on a bus by myself. I was real quiet." But times change. D'Onofrio, who says that Famous People Players taught him "so many things," is today one of the most vital members of the troupe. A highly competent performer, he is also head maître d' at the Famous People Players restaurant, a facility that is staffed by both company members and student chefs from nearby Humber College. "My job is to greet people, take the bar orders and serve the wine," he says. "I also supervise a crew that makes sure the restaurant is kept clean." D'Onofrio readily acknowledges that he has travelled far. "It used to be I never said anything," he says, his eyes twinkling, "but now they can't get me to shut up."

Lesley Brown is another individual who has flowered in the Famous People Players clime. A 28-year-old who cried and would not let go of her mother's hand the first day she joined the company eight years ago, Brown is now an independent and confident young woman who has developed such a reputation for being happy that her colleagues call her Giggle Juice. "Famous People Players has been terrific for my daughter," says Sandy Brown, Lesley's father. "Before, Lesley was never very keen to try new things. Nor did she have many friends. Now she has so much. She works hard and takes care of herself and her money. She travels around the city – and the world. And she has friends. Famous People Players has made her life so much richer than it otherwise might have been."

That's an observation June Kozak insists applies to her son, Gregory, as well as scores of other special people. "Famous People Players has grown to become a symbol of inspiration for people with intellectual disabilities and their families around the world," she says. "What it teaches is that every individual has the potential to live a meaningful life and to make dreams come true." □



# Memories of Gardens, Secret and Otherwise



GARDENS HAVE ALWAYS GIVEN ME GREAT pleasure. As the American philosopher Amos Bronson Alcott once wrote, "Who loves a garden still his Eden keeps." Gardens are gentle havens in this busy world of ours, their colours, music and fragrance conspiring to soothe the soul and unlock the mind.

Perhaps it is my grandmother who is responsible for my love of gardens. When I was small, I took her great garden for granted but loved it nonetheless. A low stone wall bounded her maze of rosebeds, and I can still picture my grandmother clipping away dead blossoms, weeding and watering, all the time telling me about this bloom or that as I skipped along the little wall. Beyond the rose garden was a velvet lawn and, here and there, flowerbeds bright with the colours of hundreds of blooms.

There was in this garden a secret to delight a child. From a distance, it appeared that the garden ended just beyond the lawn. In fact, there was an entrance there to a wild section, where fruit trees grew among a tangle of raspberry bushes. There was mud and chaos and, oh, it was a wonderful hidden place to play.

My grandmother never forgot that a garden should be a place of pleasure for all. Hers was not a "don't stand there" kind of garden, but rather one in which nature and children could coexist.

When I was 11 my grandmother moved to a newly built bungalow with an unimaginative rectangle of recently sodded ground for a garden. Undeterred, she set to work, building a little rockery, digging flowerbeds and planting her beloved roses and myriad other flowers. Within a very few years, we were having tea in a garden that was somehow familiar.

Ten years after she'd moved to the bungalow, my grandmother gave it up for an apartment. I was not optimistic. Yes, there

was a balcony, but no piece of ground on which she could work her magic. I smiled a few years ago when I opened a letter from her and found in it a photograph of her sitting beside a trophy. Her balcony flowers, she wrote, had been named second prettiest in the English city of Cheltenham.

But my grandmother's gardens were not the only ones to give me pleasure. I also enjoyed my own gardens and those of friends. There seemed to be something different and wonderful in each. The house I lived in as a small child had a big old oak tree where I would play for hours, alone or with a friend, looking out not just on our garden but those of our neighbours.

I would sit with a friend in her garden on a white wrought-iron bench that had once belonged to the British prime minister Benjamin Disraeli. I didn't really know much about Disraeli, but I felt important sitting on his bench, which, to my mind at least, gave the garden a dignified air.

When I was 10, I moved from the city to a village, where we lived in a house with a wonderful, comfortable old garden that seemed to belong to another time. Down one side ran a wide bed planted with a disorderly and rather motley collection of flowers, some as tall as I was. Immediately behind the house was a large lawn. When we had first arrived, the area was largely taken up by an enormous bed of Brussels sprouts. We were not particularly averse to sprouts, but they weren't the prettiest sight to look out on from the veranda and tended to give off a rather

unpleasant odour in warm weather.

By far my favourite part of this rambling garden was the large fruit cage beyond the lawn. Gooseberries, redcurrants, blackcurrants, loganberries and raspberries grew in profusion, and many was the quiet hour I spent there picking a bowl of berries for a summer pudding.

Another garden that sticks in my memory is one with which I had a chance encounter about 15 years ago. It was in the central Indian city of Jhansi, at an old hotel that had been built in the early 1800s as army officers' quarters. My husband and I were travelling through India and found ourselves stranded in Jhansi when we changed trains on our journey from northern India to the southern city of Madras – it seemed the train we had expected to take could hold no more people. We arrived at the hotel at night, and it wasn't until the next morning that we saw the beautiful garden outside our window. Enclosed by a black wrought-iron fence, it had a perfectly manicured lawn surrounded by rosebushes and other, unfamiliar flowers with scents as exotic as some of the birds whose song serenaded us as we read the newspaper there under blue skies and a warm sun. I remember that garden as a tonic. We were travel-weary but weren't ready to give up on India; the garden, with its blissful tranquillity and hints of home, restored our spirits completely.

As I watch summer take hold of my own garden – rather meagre compared with those of my past, I'm afraid – I find myself thinking of my grandmother. She is 91 now, and this summer I will visit her. And we'll sit together on her balcony, having tea among the flowers, and I'll find myself thinking of the many happy hours we've passed together in the gardens of our lives. – Sarah Lawley



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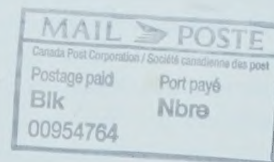
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